What is claimed is:

1. A loading device for a chemical mechanical polisher of semiconductor wafers comprising:

a loading cup on wherein a cup plate is installed in a cup-shaped bath, a loading plate for receiving wafers sits on the cup plate, and a plurality of vertical damping devices lie between the cup plate and the loading plate so as for the loading plate to be damped in a vertical direction;

a driving axis for a right and left pivot movement and an ascending and descending movement of the loading cup between a platen of the chemical mechanical polisher and a spindle; and

an arm connecting the loading cup to the driving axis;

wherein a plurality of horizontal damping devices are positioned with a constant angle in a radial direction along a bottom surface of the loading plate from its center in order for a polishing carrier head mounted on the spindle and the loading plate to be detachable after being calibrated to a normal position by shaking the loading plate finely in a horizontal direction within the limit of a certain driving tolerance, based on a position deviation between the polishing carrier head and the loading plate, when loading and unloading wafers therebetween; and

wherein both ends of each horizontal damping device are fixed to the cup plate and the loading plate, respectively.

2. The loading device according to claim 1, wherein each horizontal damping device is comprised of a tension spring both ends of which are fixedly hooked respectively to fixing threads which are fixed to the top surface of the cup plate and the bottom surface of the loading plate, respectively.

3. The loading device according to claim 1, wherein a plurality of guide rollers are equidistantly installed along the circumference of the loading plate in a projected way toward the center thereof at an outer

periphery area of the loading plate in which a retainer ring mounted on along the circumference of the polishing carrier head is inscribed, in order to minimize the friction caused by contact between the retainer ring and the loading plate.

4. The loading device according to claim 3,

wherein each guide roller is comprised of a ball-point roller which has a spiral thread along the outer surface of a spherically shaped roller body;

wherein a guide ball which rotates upon contact with the retainer ring of the polishing carrier head is mounted on at the front end of the roller body and is partially projected outward from the roller body; and

wherein a plurality of fine sized bearing balls capable of rotating the guide ball smoothly are disposed inside the roller body on which the guide ball is mounted.

5. The loading device according to claim 1,

wherein a wafer guide step capable of receiving a certain sized wafer is formed in an inside circumference on the upper surface of the loading plate; and

wherein the wafer guide step is tilted with a slant angle of 5 to 45° in a way that the circumference of the inner side wall of the wafer guide step is tilted outwardly from its vertical position, so as to easily receive the wafer into the wafer guide step by inertia due to a pivoting movement of the loading cup.

6. The loading device according to claim 1,

wherein the vertical damping device is comprised of a ball point plunger spring where a support ball is mounted onto upper portion of a spherically shaped casing in which the support ball rotates upon contact thereof with the bottom surface of the loading plate;

wherein the support ball is partially projected outward from the top surface of the casing;

wherein a plunger is installed inside the casing which supports the supporting ball resiliently by way of a spring;

wherein the lower portion of the plunger may move in and out by a small distance without any interruption through a hole formed at the bottom surface of the casing; and

wherein a plurality of fine bearing balls for rotating the support ball smoothly are disposed at a contact area between the support ball and the plunger.

7. The loading device according to claim 1, wherein a driving tolerance when loading and unloading wafers between the polishing carrier head and the loading plate is set within the limit of ±0.3°.